

CREATE YOUR OWN AQUARIUM

Just like the eight researchers who experimented with creating a self-sustaining environment, we will attempt to create our own self-sustaining ecosystem that thrives on the cycling of energy and other materials, such as carbon.

Purpose

To create a self-sustaining closed ecosystem.

Materials

- Bormioli hermetic glass storage jar (size between 2–5 liters)
- Organic potting mix
- Fluval stratum (or any other substrate used to stimulate plant growth)
- Water
- Aquatic plants, such as Java moss and Java fern
- A small living organism, such as a shrimp, snail, or fish (you can get one from a pet store)

Procedure

1. Wipe out the jar to ensure that it is clean.
2. Place 2–5 cm of potting mix at the bottom of the jar.
3. Add 2–5 cm of fluval stratum.
4. Slowly add water until it covers the substrate.
5. Place some of your aquatic plants into the substrate.
6. You may choose to add in some rocks and/or a small piece of wood.
7. Slowly add water and some more aquatic plants (they don't have to be submerged).
8. Fill the rest of the container with water.
9. Insert one or two living organisms (shrimp, snail, or fish).
10. Seal your jar with the lid. Place the ecosystem near the window or under a light source.

*For a faster and more natural setup, you may consider just gathering all your materials from a local pond into a jar before sealing it and placing it under a light source.

Adapted from Kenney, J. (2013). How to Make a Mason Jar Terrarium. The Science Classroom.

<https://thescienceclassroom.org/how-to-make-your-own-self-contained-ecosystem-biosphere/>